

9
(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



Barcode

(43) International Publication Date
22 February 2001 (22.02.2001)

PCT

(10) International Publication Number
WO 01/13159 A1

(51) International Patent Classification⁷: G02B 27/10, G01B 7/135, G02B 27/00, 5/18, 5/32

(74) Agent: BOWDERY, A., O.: D/IPD, DERA Formalities,
A4 Building, Ively Road, Farnborough, Hampshire GU14
0LX (GB).

(21) International Application Number: PCT/GB00/03085

(81) Designated States (*nationally*): AE, AL, AM, AT, AU, AZ,
BA, BE, BG, BR, BY, CZ, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID,
IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(22) International Filing Date: 15 August 2000 (15.08.2000)

English

(25) Filing Language:

English

(26) Publication Language:

(30) Priority Data:
9919497.9 18 August 1999 (18.08.1999) GB

(84) Designated States (*regionally*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

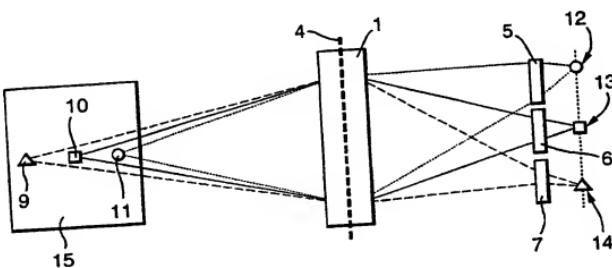
(71) Applicant (for all designated States except US): THE
SECRETARY OF STATE FOR DEFENCE [GB/GB];
Defence Evaluation Research Agency, A4 Building, Ively
Road, Farnborough, Hampshire GU14 0LX (GB).

Published:
With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and
(75) Inventors/Applicants (for US only): GREENAWAY,
Alan, Howard [GB/GB]; DERA Malvern, St. Andrews
Road, Malvern, Worcs WR14 3PS (GB). BLANCHARD,
Paul, Michael [GB/GB]; DERA Malvern, St. Andrews
Road, Malvern, Worcs WR14 3PS (GB).

(54) Title: THREE DIMENSIONAL IMAGING SYSTEM



WO 01/13159 A1

(57) Abstract: A three dimensional imaging system is described which uses a diffraction grating (4) to divide a wavefront and ancillary optical modules (5, 6, 7) in each diffraction order to modify the imaging characteristics in each order. Object planes (9, 10, 11) located at different distances from the diffraction grating are imaged simultaneously and spatially separated (12, 13, 14) on a single image plane and correction for different levels of spherical aberration associated with different object planes is achieved.